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EXAMINER

KADING, JOSHUA A

ART UNIT

PAPER NUMBER

2661

DATE MAILED: 10/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/746,179

Applicant(s)

GAIL ET AL.

Examiner

Joshua Kading

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 11-18, 20-29, 34 and 35 is/are rejected.
- 7) ☒ Claim(s) 7-10, 19, and 30-33 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Objections*

Claims 6, 12, 13, 26, 27, and 35 are objected to because of the following informalities:

5           Claim 6, lines 7-8 state "the minimum network discrete utilization." There is no antecedent basis for this limitation. Therefore, lines 7-8 should be changed to --a minimum network discrete utilization.--

          Claim 13, line 7 states "the average". There is no antecedent basis for this limitation. Therefore, line 7 should be changed to --an average--.

10           Claim 26, line 9 states "responsive to of said long". This should be changed to --responsive to said long--. The word "of" has been deleted.

          Line 1 states that claim 27 depends from claim 3. Since claim 4, which also depends from claim 3, is identical to claim 27, and claim 26 is similar to claim 3, it is assumed applicant intended claim 27 to depend from claim 26 and not claim 3.

15           Therefore, line 1 should read -The program storage device of claim 26--. Appropriate correction is required.

          Claim 12, line 3 and claim 35, line 3 state "determining Tw". For clarity this should be changed to --determining network queue wait time (Tw)--.

### 20                           ***Claim Rejections - 35 USC § 102***

          The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 13 is rejected under 35 U.S.C. 102(e) as being anticipated by Kim et al.  
(U.S. Patent 6,219,704 B1).

Regarding claim 13, Kim discloses "a method for evaluating a discrete utilization  
of a network, comprising the steps of

5 transmitting probative samples through said network (col. 4, lines 66-col. 5, lines  
1-2);

time stamping said probative samples (figure 5, element 3100 shows the  
samples with measurements of delays which are calculated using time stamping, see  
col. 5, lines 14-16); and

10 responsive to said samples, calculating an average wait time and a standard  
deviation of average delay of said network (col. 5, lines 57-65 shows the average delay  
or wait time being calculated; col. 6, lines 7-10 shows the standard deviation being  
calculated)."

15 ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can  
be found in a prior Office action.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et  
20 al. in view of applicant's admitted prior art.

Regarding claim 14, Kim discloses the method of claim 13. Kim lacks "said  
samples comprising one way echo packets." However, applicant's admitted prior art

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discloses "said samples comprising one way echo packets (specification, page 3, lines 1-6 where the ping packets are echo packets; page 4, lines 3-5 where it is suggesting the packets are sent one way)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the one way echo packets with the method of claim 13 for the purpose of determining different network characteristics such as bandwidth, delay time, and queueing time. The motivation being to accurately predict network conditions for actual data transmission.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. in view of McKee et al. (U.S. Patent 5,477,531).

Regarding claim 15, Kim discloses the method of claim 13. Kim lacks "said samples comprising two way echo packets." However, McKee discloses "said samples comprising two way echo packets (col. 4, lines 10-21)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the two way echo packets with the method of claim 13 for the purpose of determining network characteristics. The motivation being to accurately predict network conditions for actual data transmission.

Claims 1, 11, 16, 20, 21, 22, 23, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. in view of Pruitt et al. (U.S. Patent 6,597,907 B1).

Regarding claim 20, Kim discloses "a program storage device readable by a machine, tangibly embodying a program of instructions executable by a machine for evaluating a network (col. 3, lines 38-55), comprising:

a first program module for measuring average message delay through said  
5 network (col. 5, lines 57-65 shows the average delay or wait time being calculated);  
a second program module for determining a standard deviation of said message delay (col. 6, lines 7-10 shows the standard deviation being calculated)..."

However, Kim lacks what Pruitt discloses, "a third program module for calculating a discrete utilization of said network as a ratio of said average message delay to said  
10 standard deviation (col. 9, lines 28-53, although Pruitt does not explicitly disclose a standard deviation, one of ordinary skill in the art would easily be able to take the variance, which is the standard deviation squared, to obtain the standard deviation; as seen in the table a preceding paragraph, the ratio of mean to variance is a common entity in regard to the capacity, or utilization, of a given system; it should also be further  
15 noted here that although Pruitt is applying the ratio of mean to variance within the context of a memory system, it would have been obvious to one with ordinary skill in the art to use the same statistical relationship in a network setting, the reason being that the statistical distribution models used do not change from system to system, they can be utilized in a network system just as in a memory system)."

20 It would have been obvious to one with ordinary skill in the art at the time of invention to include the calculating of the utilization using the delay and deviation for the purpose of identifying portions of a system in use (Pruitt, col. 9, lines 36-44). The

motivation for identifying how much of a system is in use allows for further determination of available resources.

Claims 1, 21, 22, and 23 contain limitations similar to those of claim 20. Although  
5 the limitations of claims 1, 21, 22, and 23 are not verbatim identical, they are similar enough to be rejected using the same reasons as those in claim 20. Therefore, claims 1, 21, 22, and 23 are rejected for the same reasons and motivation as that in claim 20.

Regarding claim 16, Kim discloses the method of claim 13. However, Kim lacks  
10 what Pruitt discloses, "deriving said discrete utilization as a ratio of a wait time of said network to a standard deviation of the average wait time (col. 9, lines 28-53, although Pruitt does not explicitly disclose a standard deviation, one of ordinary skill in the art would easily be able to take the variance, which is the standard deviation squared, to obtain the standard deviation; as seen in the table a preceding paragraph, the ratio of  
15 mean to variance is a common entity in regard to the capacity, or utilization, of a given system; it should also be further noted here that although Pruitt is applying the ratio of mean to variance within the context of a memory system, it would have been obvious to one with ordinary skill in the art to use the same statistical relationship in a network setting, the reason being that the statistical distribution models used do not change from  
20 system to system and thus can be utilized in a network system just as in a memory system)."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the calculating of the utilization using the delay and deviation for the purpose of identifying portions of a system in use (Pruitt, col. 9, lines 36-44). The motivation for identifying how much of a system is in use allows for further determination  
5 of available resources.

Regarding claim 34 Kim discloses "a program storage device readable by a machine, tangibly embodying a program of instructions executable by a machine to perform operations for evaluating a network (col. 3, lines 38-55), comprising the steps of  
10 determining average message service time (col. 5, lines 57-65 shows the average delay or service time being calculated)..."

However, Kim lacks what Pruitt discloses "determining network discrete utilization (col. 9, lines 28-53 it should also be further noted here that although Pruitt is applying the ratio of mean to variance, which is used to calculate utilization of memory,  
15 within the context of a memory system, it would have been obvious to one with ordinary skill in the art to use the same statistical relationship in a network setting, the reason being that the statistical distribution models used in Pruitt do not change from system to system and thus can be utilized in a network system just as in a memory system); calculating a standard deviation of network queue wait time = square root of (utilization \*  
20 (2-utilization))\*(average message service time/(1-utilization)) (col. 9, lines 28-53 where the variance is the standard deviation squared, and although it is not specifically stated



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that the standard deviation is calculated using the same expression as in claims 11 and 34, it is well known in the art how to derive a standard deviation of data)."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the calculating of the utilization using the delay and deviation for the purpose of identifying portions of a system in use (Pruitt, col. 9, lines 36-44). The motivation for identifying how much of a system is in use allows for further determination of available resources.

Claim 11 contains limitations similar to those of claim 34. Although the limitations of claim 11 are not verbatim identical, they are similar enough to be rejected using the same reasons as those in claim 34. Therefore, claim 11 is rejected for the same reasons and motivation as that in claim 34.

Claims 12 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. and Pruitt et al. as applied to claims 11 and 34 above, and further in view of applicant's admitted prior art (AAPA).

Regarding claims 12 and 35, Kim and Pruitt disclose the method of claim 11 and the computer program of claim 34. However, Kim and Pruitt lacks what AAPA further discloses, "determining network queue wait time = utilization \* average message service time/(1-utilization) (specification, page 3, lines 1-9 where queuing time is the same as network queue wait time and although the exact calculation of the wait time is not disclosed in the specification, it would have been obvious to one with ordinary skill in the

art to be able to calculate the wait time because the same parameters used to calculate the utilization used in claims 12 and 35 (best time/mean time, etc) are used to calculate the wait time in the specification, thus it would have been obvious to one with ordinary skill in the art to calculate the wait time using best/mean times or utilization)". It would  
5 have been obvious to one with ordinary skill in the art at the time of invention to include the calculation of the queue wait time for the same reasons and motivation as in claims 11 and 34.

Claims 2, 17, 18, 24, and 25 are rejected under 35 U.S.C. 103(a) as being  
10 unpatentable over Kim et al. and Pruitt et al. and in further view of Appanna et al. (U.S. Patent 6,678,244 B1).

Regarding claim 25, Kim and Pruitt disclose the program storage device of claim 21. However, Kim and Pruitt lack what Appanna discloses, "factoring instances of  
15 dropped messages as full utilization in calculating said discrete utilization (col. 1, lines 60-67 where the percentage of discarded packets, i.e. dropped messages, are used to calculate the congestion of the network, which, as is known in the art, is directly related to utilization)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the factoring of the dropped messages for the purpose of  
20 monitoring the network congestion. The motivation for monitoring congestion in a network, among others, is to identify and fix congestion problems so that the degradation of the network can be avoided.

Claims 2, 17, and 24 contain limitations similar to those of claim 25. Although the limitations of claims 2, 17, and 24 are not verbatim identical, they are similar enough to be rejected using the same reasons as those in claim 25. Therefore, claims 2, 17, and  
5 24 are rejected for the same reasons and motivation as that in claim 25.

Regarding claim 18, Kim discloses "a program storage device readable by a machine, tangibly embodying a program of instructions executable by a machine for evaluating a network (col. 3, lines 38-55), comprising:

10 an apparent network speed analysis application module for measuring average message delay through said network (col. 5, lines 57-65 shows the average delay or wait time being calculated), determining a standard deviation of said message delay (col. 6, lines 7-10 shows the standard deviation being calculated)..."

However, Kim lacks what Pruitt discloses, "calculating a discrete utilization of  
15 said network as a ratio of said average message delay to said standard deviation (col. 9, lines 28-53, although Pruitt does not explicitly disclose a standard deviation, one of ordinary skill in the art would easily be able to take the variance, which is the standard deviation squared, to obtain the standard deviation; as seen in the table a preceding paragraph, the ratio of mean to variance is a common entity in regard to the capacity, or  
20 utilization, of a given system; it should also be further noted here that although Pruitt is applying the ratio of mean to variance within the context of a memory system, it would have been obvious to one with ordinary skill in the art to use the same statistical

relationship in a network setting, the reason being that the statistical distribution models used do not change from system to system, they can be utilized in a network system just as in a memory system)...”

It would have been obvious to one with ordinary skill in the art at the time of  
5 invention to include the calculating of the utilization using the delay and deviation for the purpose of identifying portions of a system in use (Pruitt, col. 9, lines 36-44). The motivation for identifying how much of a system is in use allows for further determination of available resources.

Kim and Pruitt however, further lack what Appanna discloses, “a service level  
10 and capacity planning routine module for tuning said network (col. 1, lines 60-67 where using the percentage of discarded packets to calculate the congestion of the network is a way to use a service level and capacity to plan for tuning the network in response to the network congestion).”

It would have been obvious to one with ordinary skill in the art at the time of  
15 invention to include the factoring of the dropped messages for the purpose of monitoring the network congestion. The motivation for monitoring congestion in a network, among others, is to identify and fix congestion problems so that the degradation of the network can be avoided.

20 Claims 5 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. in view of Appanna et al.

Regarding claim 28, Kim discloses "a program tangibly embodying a program of instructions executable by a machine to perform operations for evaluating a network, said storage device readable by a machine (col. 3, lines 38-55), operations comprising:  
sending test packets across said network (col. 4, lines 66-col. 5, lines 1-2);

5       based upon number of test packets transmitted, number of bytes per test packet, send and receive timestamps of each test packet... deducing... its latency (col. 5, lines 57-65 shows the average delay or wait time being calculated where the latency of the network is the functional equivalent to the network's latency)..."

However, Kim lacks what Appanna discloses, using number of packets, size, and  
10   latency, and a "number of test packets lost in transmission" to "deducing a capacity of said network... and a current utilization of said capacity (col. 1, lines 60-67 where the percentage of discarded packets, i.e. lost packets, are used to calculate the congestion of the network, which, as is known in the art, is directly related to utilization; further, the network congestion can only be determined based on a reference point, that reference  
15   point is the network capacity, i.e. the calculated value of congestion is nothing more than a value of usage of the network referenced to the total capacity of that network, therefore network capacity must be known)."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the factoring of the dropped messages for the purpose of monitoring  
20   the network congestion. The motivation for monitoring congestion in a network, among others, is to identify and fix congestion problems so that the degradation of the network can be avoided.

Claim 5 contains limitations similar to those of claim 28. Although the limitations of claim 5 are not verbatim identical, they are similar enough to be rejected using the same reasons as those in claim 28. Therefore, claim 5 is rejected for the same reasons  
5 and motivation as that in claim 28.

Claims 6 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. and Appanna et al. as applied to claims 5 and 28 above, and further in view of Kirby (U.S. Patent 5,142,531).

10 Regarding claims 6 and 29, Kim and Appanna disclose the method of claim 5 and the computer program of claim 29. However, Kim and Appanna lack what Kirby discloses, "calculating network hop count as a measure of a minimum number of hops of network bottleneck hop speed that could be in the network (col. 5, lines 61-66 where the minimized hop count is based on a maximized network capacity or hop speed in the  
15 links of the network); and responsive to said network hop count, determining a minimum network discrete utilization (col. 5, lines 61-66 where it is suggested that through the minimum network hop count a most efficient utilization of the network will be achieved, this is the same thing as determining a minimum network utilization based on the network hop count because the minimum utilization is the most efficient)." It would have  
20 been obvious to one with ordinary skill in the art at the time of invention to include the calculating of the network hop count for the purpose of determining a minimum number

of hops. The motivation for determining minimum number of hops is to determine the most efficient network utilization possible.

Claims 3, 4, 26, and 27 are rejected under 35 U.S.C. 103(a) as being  
5 unpatentable over applicant's admitted prior art (AAPA) in view of Pruitt et al.

Regarding claims 3 and 26, AAPA discloses "communicating of a plurality of long packets and short packets through said network (specification, page 2, lines 16-18 where different some packets are shorter/longer than others);

determining a best time of said long packets (specification, page 3, lines 1-3);  
10 determining a best time of said short packets (specification, page 3, lines 1-3);  
responsive to said long and short packets and their respective best times,  
determining Network Queue Wait Time (specification, page 3, lines 4-9 where the network path's queuing time is equivalent to the Network Queue Wait Time)..."

However, AAPA lacks what Pruitt discloses, "and a standard deviation of  
15 Network Queue Wait Time (col. 9, lines 28-53 where the variance is the standard deviation squared, and although it is not specifically stated that the standard deviation is calculated from Network Queue Wait Times, it is well known in the art how to take a standard deviation of data and thus it would have been obvious to one with ordinary skill in the art to derive the standard deviation of Network Queue Wait Time data);  
20 responsive to said Network Queue Wait Time and standard deviation, calculating a discrete utilization of said network (col. 9, lines 28-53 it should also be further noted here that although Pruitt is applying the ratio of mean to variance, which is used to

calculate utilization of memory, within the context of a memory system, it would have been obvious to one with ordinary skill in the art to use the same statistical relationship in a network setting, the reason being that the statistical distribution models used in Pruitt do not change from system to system and thus can be utilized in a network system just as in a memory system)."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the calculating of the utilization using the delay and deviation for the purpose of identifying portions of a system in use (Pruitt, col. 9, lines 36-44). The motivation for identifying how much of a system is in use allows for further determination of available resources.

For claim 26, it should also be noted that AAPA and Pruitt do not explicitly disclose "a program storage device readable by a machine, tangibly embodying a program of instructions executable by a machine to perform operations for evaluating a network..." Although neither AAPA nor Pruitt disclose the computer program, it would have been obvious to one with ordinary skill in the art to use a computer program to implement the evaluating of the network because there is no other feasible way besides computer technology to implement the evaluating of a network that is based on electrical signals. The motivation for using a computer is so that the evaluation can be done accurately and quickly using computer technology.

Regarding claims 4 and 27, AAPA and Pruitt disclose the method of claim 3 and the computer program of claim 26. However, AAPA lacks what Pruitt further discloses,



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the Network Queue Wait Time, standard deviation, and utilization are related by the expression found in claims 4 and 27 of the instant application (col. 9, lines 51-53 where although the equation in Pruitt is not identical to that in claims 4 and 27, using the commonly known statistical values in Pruitt and claims 4 and 27, the ratio of wait time to standard deviation is the same, provided the variance in Pruitt is translated into the standard deviation). Thus it would have been obvious to one with ordinary skill in the art at the time of invention to include the ratio of wait time to standard deviation for the same reasons and motivation as that in claims 3 and 26.

10

***Allowable Subject Matter***

Claims 7-10, 19, and 30-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15

***Response to Arguments***

The objections to the drawings have been withdrawn in light of the corrected drawings submitted on 14 June 2004.

The objection to the specification has been withdrawn in light of the amended specification submitted on 14 June 2004.

20

Applicant's arguments, see Remarks, pages 21-34, filed 14 June 2004, with respect to the rejections under 35 U.S.C. 112 first paragraph for claims 3-10 have been fully considered and are persuasive. The 35 U.S.C. 112 first paragraph rejections of claims 3-10 have been withdrawn.

5

Applicant's arguments, see Remarks, pages 34-36, filed 14 June 2004, with respect to the rejections under 35 U.S.C. 112 second paragraph for claims 5, 11, 12, 18, and 19 have been fully considered and are persuasive. The 35 U.S.C. 112 second paragraph rejections for claims 5, 11, 12, 18, and 19 have been withdrawn.

10

Applicant's arguments, see Remarks, pages 36-37, filed 14 June 2004, with respect to the rejections under 35 U.S.C. 101 for claims 18-20 have been fully considered and are persuasive. The 35 U.S.C. 101 rejections of claims 18-20 have been withdrawn.

15

Applicant's arguments filed 14 June 2004 have been fully considered but they are not persuasive.

Regarding the 35 U.S.C. 102 rejection of claim 13, applicant argues the Kim et al. does not disclose the average wait time but rather is measuring the total end-to-end delay and that Kim makes no mention of a ratio between wait time and standard

20

deviation and a calculation of a network utilization. Further applicant argues that Kim makes no distinction between conversational and streaming utilization.

The examiner respectfully disagrees.

As noted in the rejections above, Kim discloses the "average wait time" of the network as can be read in col. 5, lines 56-65. Although applicant is correct in pointing out that Kim does measure an end-to-end delay of packets, this is not what is used to reject claim 13. The formula on lines 60-65 is what is used to calculate the average delay or average wait time of the network and this formula fully reads on the corresponding limitation of claim 13 as stated.

There is no mention of a ratio or of conversational or streaming utilizations in the claim language of claim 13, therefore Kim does not need to disclose these limitations.

Regarding the 35 U.S.C. 103 rejection of claim 14, applicant argues that applicant's admitted prior art (AAPA) does not teach the use of average wait time or standard deviation as set forth in claim 13. The examiner respectfully disagrees.

It is never the contention of the rejection of claim 14 that AAPA teach the average wait time or standard deviation as in claim 13. Those limitations were disclosed by Kim et al. in claim 11 as explained above. AAPA was used to teach the deficiency presented in claim 14 and it is believed Kim in view of AAPA has been clearly explained and justified and thus fully reads on claim 14.

Regarding the 35 U.S.C. 103 rejection of claim 15, applicant argues that neither Kim nor McKee make use of the average wait time and standard deviation as set forth in claim 15. The examiner respectfully disagrees.

As explained with regard to the rejection of claim 13, Kim fully explains and reads  
5 on the limitations concerning the use of average wait time and standard deviation. Further, it is never the contention of the rejection of claim 15 that McKee teach the average wait time or standard deviation as in claim 13. Those limitations were disclosed by Kim et al. in claim 11 as explained above.

10 The indicated allowability of claims 1, 2, 16, 17, 21, 23, and 24 has been withdrawn in light the newly formed rejections based on newly discovered art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Kading whose telephone number is (571) 272-  
15 3070. The examiner can normally be reached on M-F: 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

- 5 For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joshua Kading  
Examiner  
Art Unit 2661

10 October 12, 2004



KENNETH VANDERPUYE  
PRIMARY EXAMINER